

1.
46
16
Published March 1827
by S. H.

An Essay

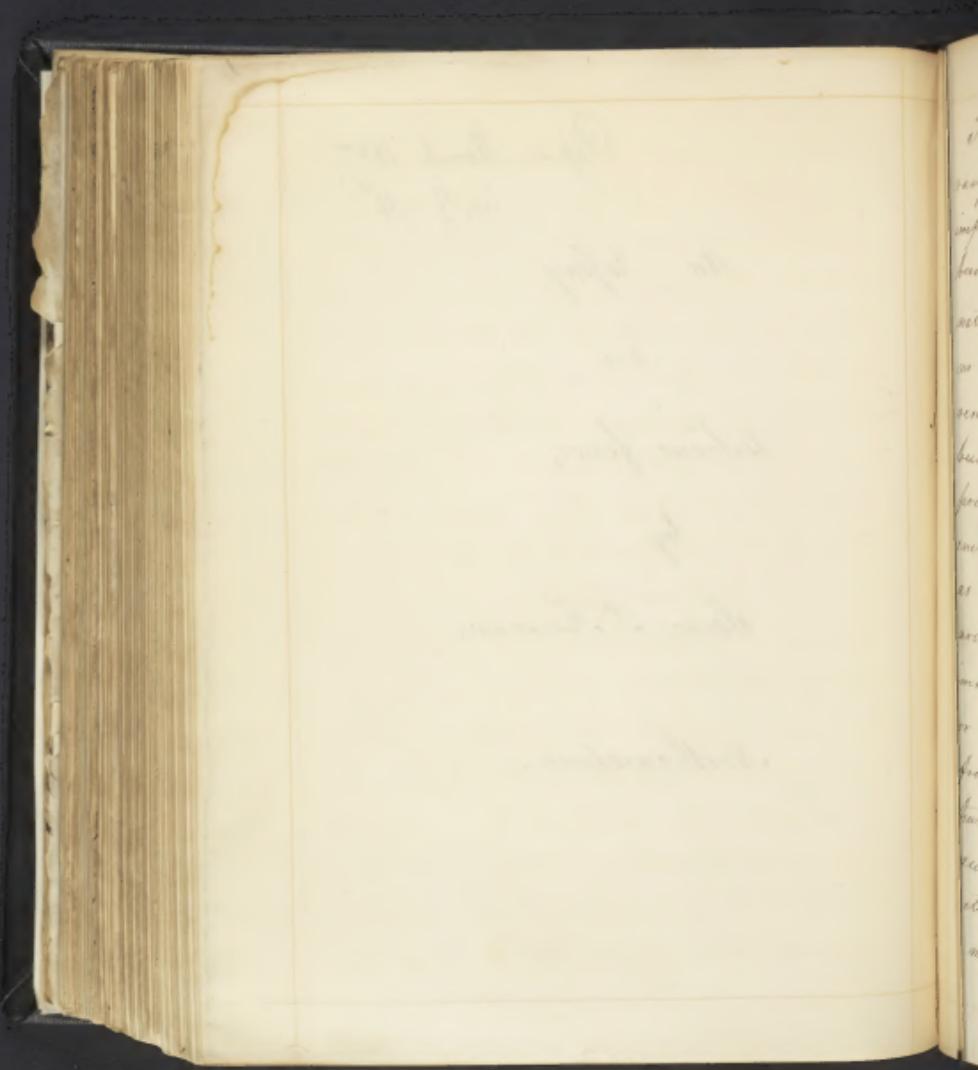
on

Bilious Fever,

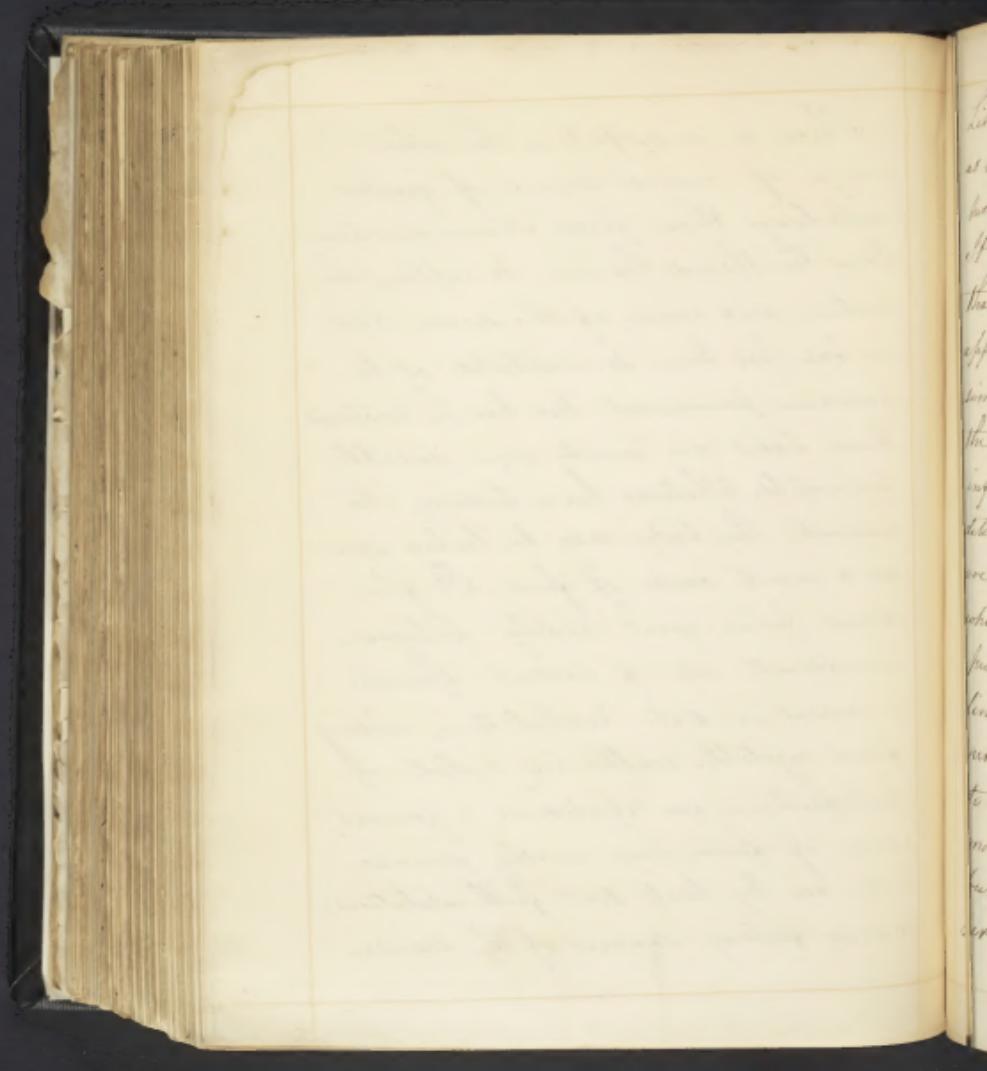
by

Isaac P. Freeman.

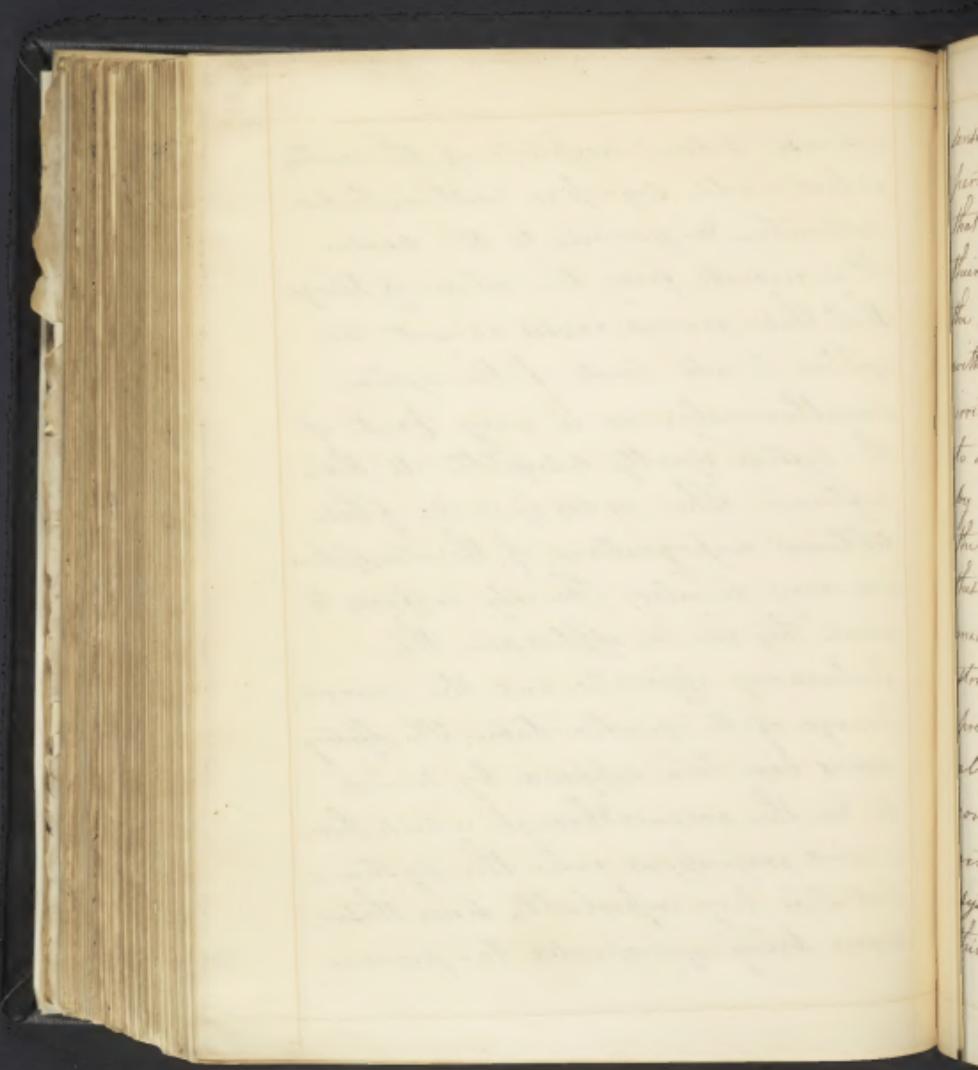
North Carolina.



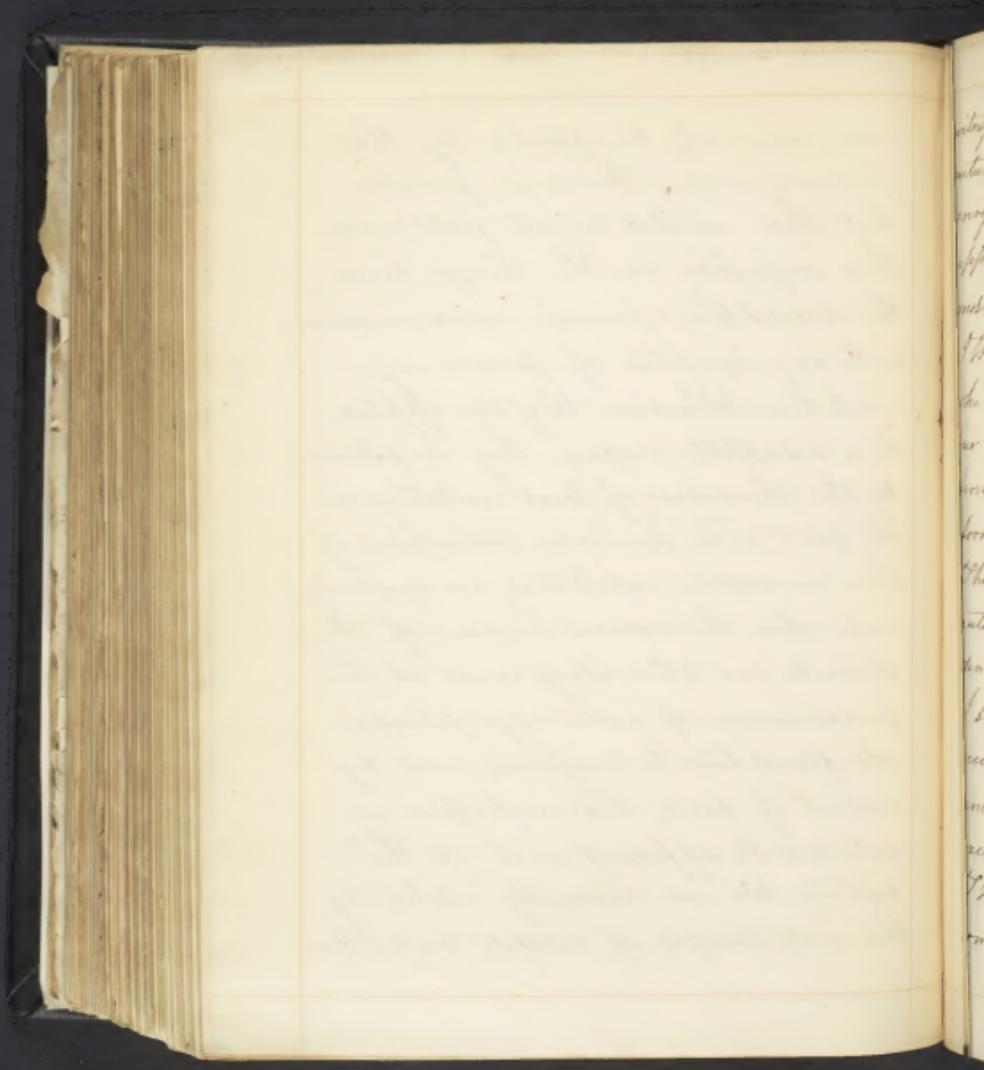
There is no subject, in the whole range of medical science, of greater importance than fever. Numerous have been the theories framed to explain the nature, and causes of this disease; but no one has been so constituted as to remain permanent. Nor has the treatment been based on much more durable principles. Whatever has a tendency to invigorate the body, may be looked upon as a remote cause of fever. It often arises from great bodily fatigue, immoderate use of ardent spirits, or errors in diet. Exhalations, arising from vegetable matter in a state of putrefaction, are considered a general cause of fever. Low marshy grounds, acted on by heat, send forth exhalations; a never failing source of the disease.



Likewise sudden vicissitudes of the weather, as heat or cold, dryness or moisture, checked perspiration &c. give rise to the disease. It is evident, from the nature of things, that these various causes cannot be applied to all parts of the system simultaneously; nor is every part of the system equally susceptible to their influence. The modus operandi, of these deleterious impregnations of the atmosphere, are very similar. The only surfaces, to which they can be applied are, the pulmonary apparatus, and the mucous linings of the digestive tube. The olfactory nerves have been supposed, by some, to be the avenues through which these morbid impressions enter the system; but it is very improbable, since these nerves being appropriated to a peculiar

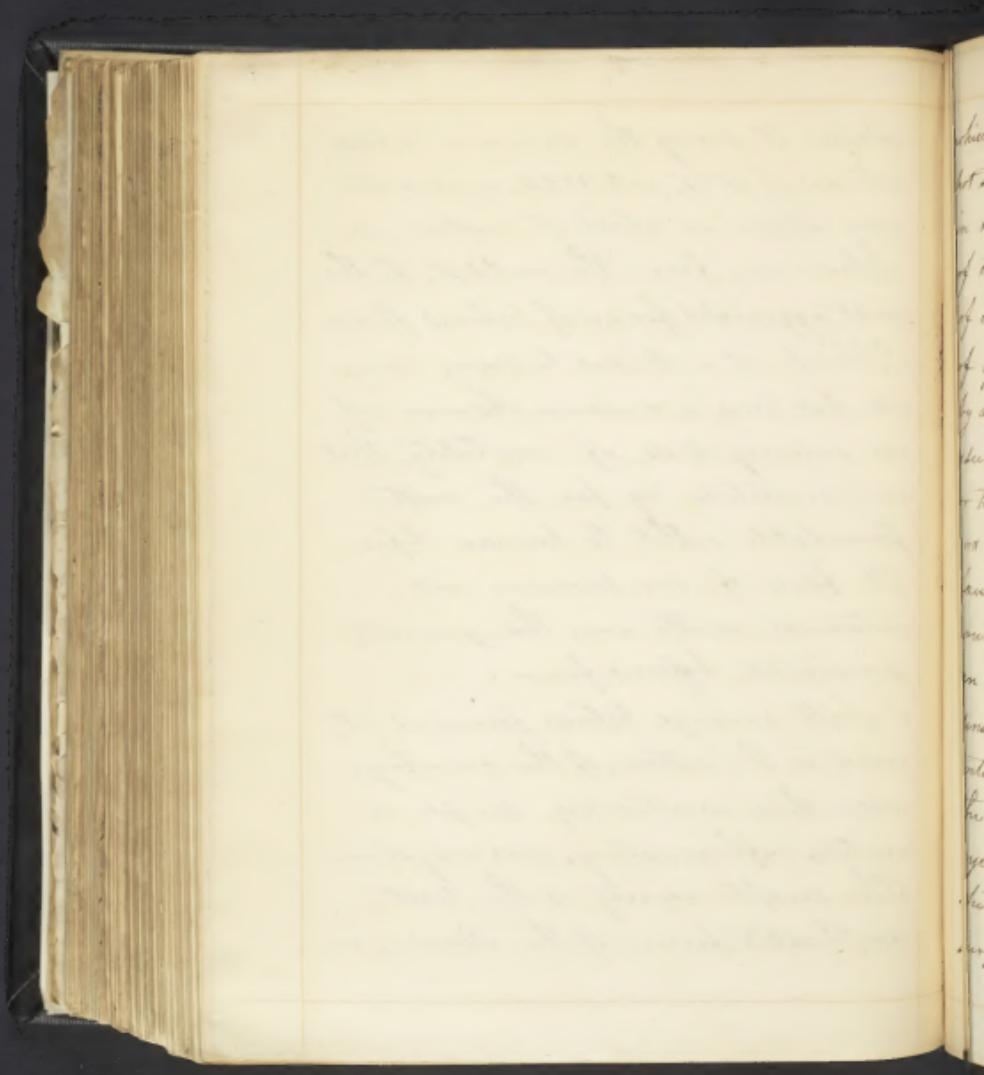


lens, can only be affected by that particular lens. Nor is it probable that these morbid agents first make their impression on the lungs, since the diseases they produce never commensurate with any symptom of pulmonary irritation. Whenever they are applied to a susceptible surface, they are followed by the phenomena of local irritation in the part. The primary impressions of their miasmatic exhalations, are uniformly made upon the mucous surface of the stomach, and alimentary canal, as the predominance of gastric symptoms in all fevers tend to confirm; and by contact of parts, their impression is extended to different parts of the system. We are annually visited by this most baneful of diseases; and I have

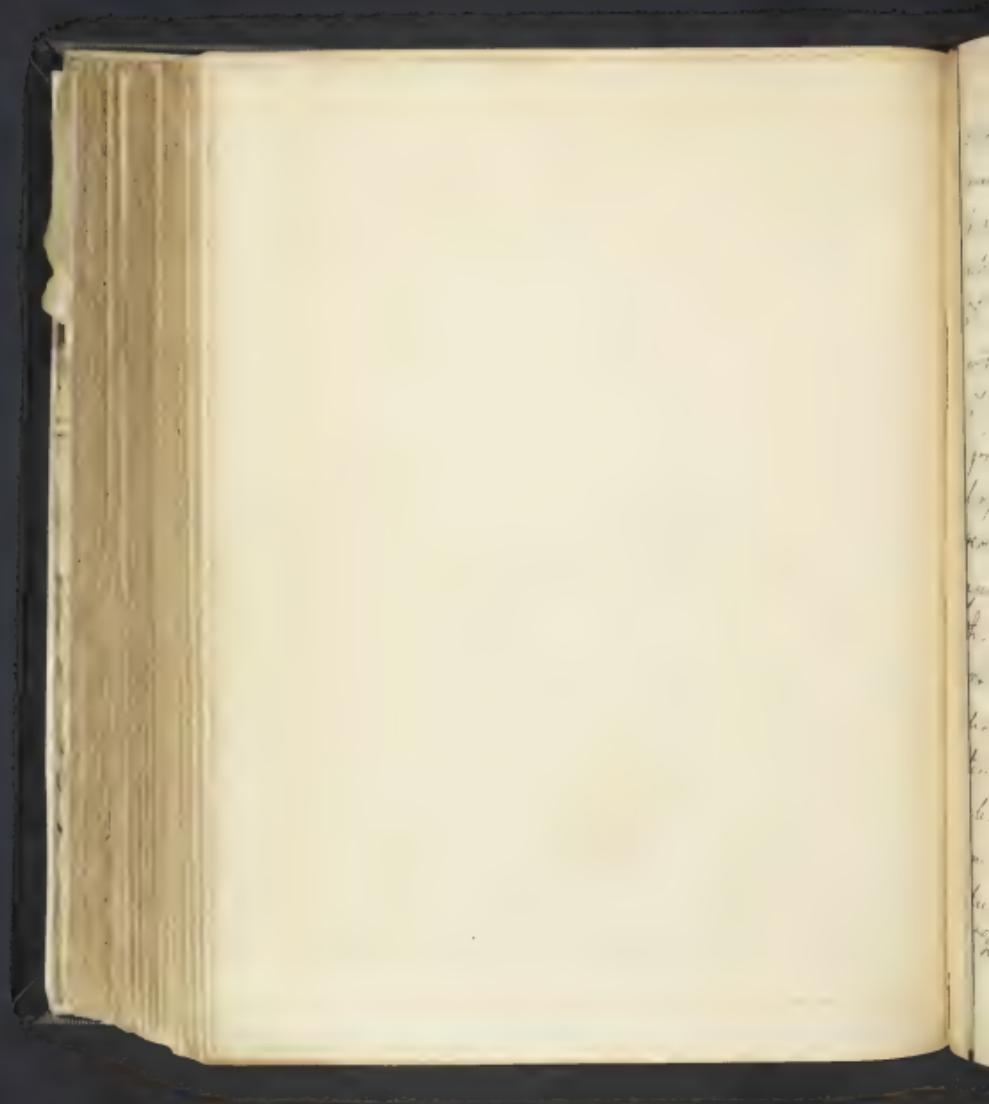


witnessed it during the summer and autumn of 1825, and 1826, in almost every shape in which it makes its appearance; from the mildest, to the most aggravated forms of bilious fever. I think it is obvious to every one, who has been a common observer of our ordinary bills of mortality, that fever constitutes by far the most formidable outlet to human life. The fevers of our summer and autumnal months are, those generally denominated, bilious fever.

I shall arrange bilious fevers as it occurs in this section of the country, under three varieties, viz. simple or excited, inflammatory, and congestive. The simple variety is the least complicated form of the disease, in



which the fetal excitement, or the
last stage, is completely developed: or
in which there are no decided marks
of typical illumination. The stage
of excitement is preceded by one
of opposition which is itself followed
by a state of collapse. In a 2d
usual synopsis in the former, there
are stages of opposition, and longer
or briefer, sluggishness of motion. We
can become pale with a sudden
excitement; growing, stretching and
an aversion to quiet; loss of general
sensibility, and a diminution of
intellectual power, a livid colour in
the integuments surrounding the
eyes; quick and laborious respiration,
chilly sensations running over the
surface, until finally a total insensibility.



swelling: a whitish or clammy tongue,
invariably, and frequently, joins in the
fever; small quick shivering, also,
which is very disagreeable and very de-
fensive symptoms are accompanied
with great latitude and uncertainty.

The first stage, or very acute period,
for a day or two, and sometimes
longer, the true nature of the fever
remains lost, by the superimposing of an
ague, or chill. The second stage, or
the stage of excitement, now quickly
comes; in which there is a complete
development of the hot stage. The
temperature of the body, considerably
elevated. The circulation is alternately
increased, and the pulse becomes
full, somewhat rapid, and irregular.
The face becomes flushed, the lips

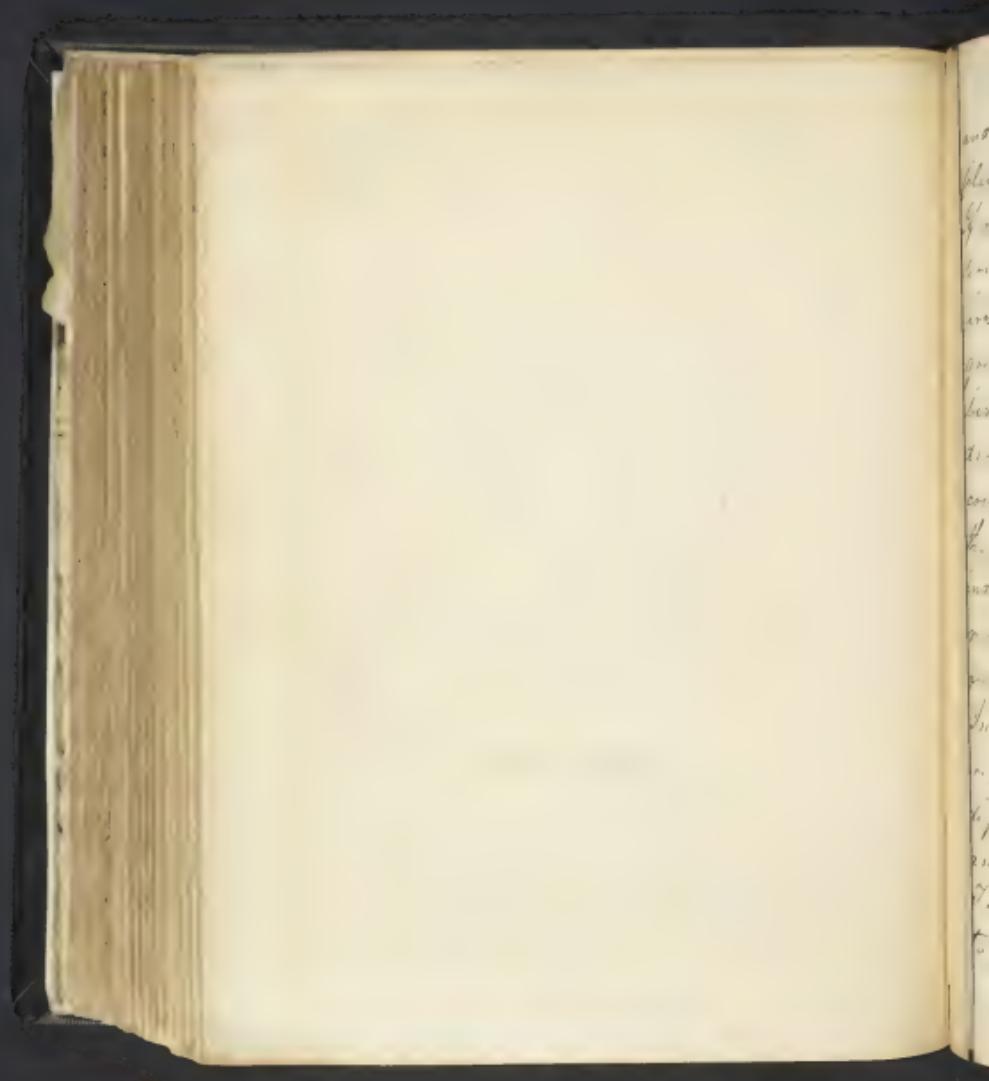


prochla, skin say, first argent
and there is very dense hair on
the head with the bling of the
superior vibrissae. Restoration is
quick and anxious, eyes dull and
sighed, tongue foul and the trachea
greatly dilated very white with
delirium. Almonds are swollen
and the skin of the face is
raw to the touch. The
mission. At the second fermentation
the patient is about equal to the first
but it is still necessary to be
tongue is also raw and the hands
have a lot of transpiration therefore
and sections undergo material changes
which are caused by the organic
nature of the skin of the entire
animal of the mouth and whole body,



17

and by the manner of appearance of the tongue. The tongue becomes
very livid for a time, according to the violent or violent, gives place
to that of pallid, or exhaustion; which is announced by the appearance
of many of the symptoms of the
profound sleep. At the end, it will
then be a forcible denunciation
of the disease. Then will be a
reduction of temperature, the pulse
will become slower and softer, and
an exhalation of a strong tongue
clearer and more moist; respirations
more regular natural breathings,
regular; and the skin more relaxed
and soft. The voice departing
intention, sediment; the face
assuming a more livid appearance;



and slight spasmodic pains taking
place on good indications.

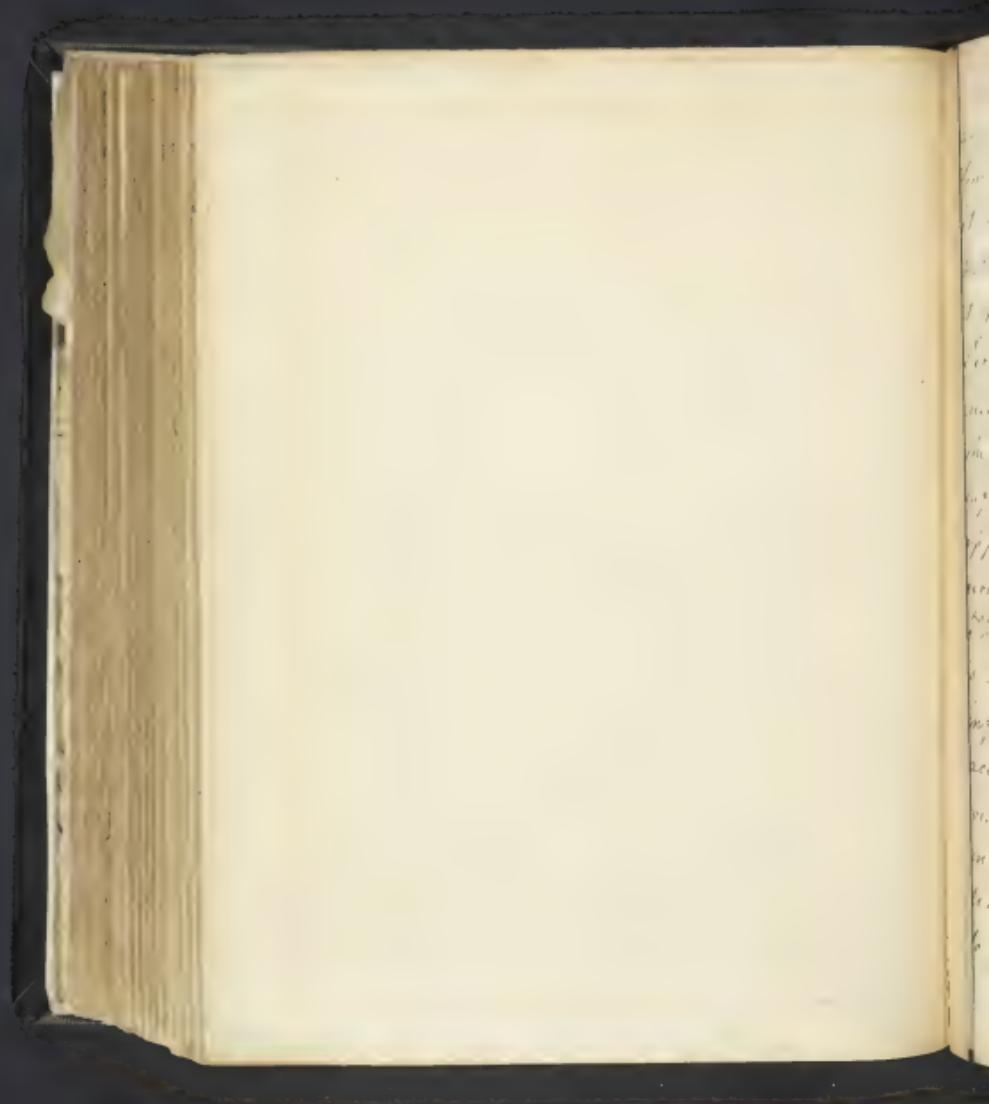
On the other hand, a fatal
conjunction is to ensue, the
inflammation of the lungs will be
markedly augmented. The pulse will
become quicker and weaker, begin
to be tremor, and the mouth

containing bubbles and affected
to some greater and the respiration
slight & breathing shorter and
more rapid, so as to render
respiration will be more & more

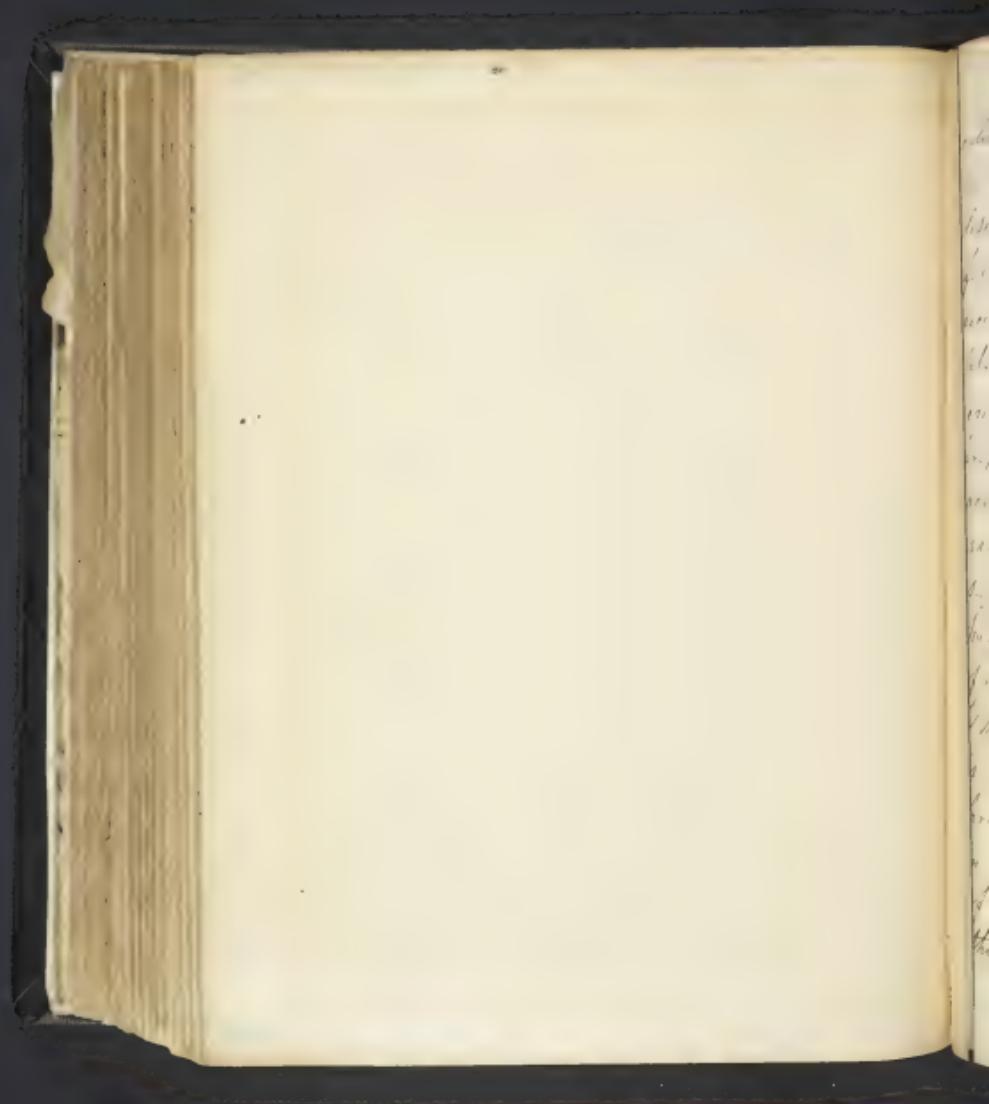
In addition to the above symptoms
are, a peculiar fever of the body,

sufficient dyspnoea, & burning tension
and a low cellular secretion.

The above symptoms are analogous
to the fever, when it has been



an unincipient swelling; if however
simply treated, by appropriate medicines,
it will generally terminate favourably;
but when neglected in the beginning,
it not unfrequently grows mortal.
Perhaps it is not very easy to
distinguish simple excitement of
the circulation from actual
inflammation. The difference
seems to consist, not in the general
circulation, but that of particular parts.
The action of the heart and arteries
is alike increased in both; but in
inflammation there is ^{an} ~~more~~ local
accumulation of blood. However
various enlargements do take place
in some well marked cases of
simple excitement. This appears
to be owing to a dilatation of the



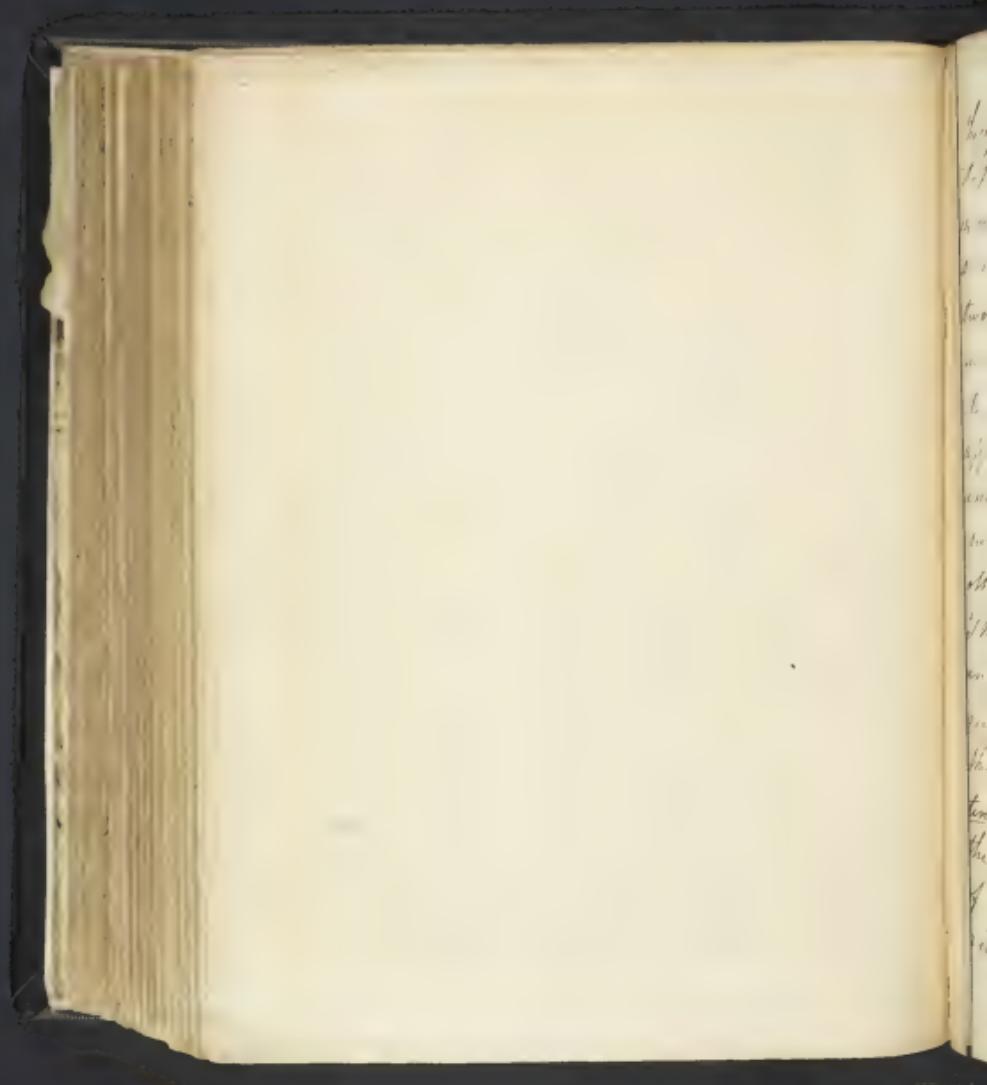
caliber of the blood vessels, unaffected
in any morbid infection or organic
lesions. This is known by the simple
fact, that they disappear with the
vessels. In the excretive state the
blood is not impounded and
readily circulates through the
body, in some cases to local accumulations. In the inflammatory
variety, there is considerable
superabundance of blood in
particular parts, with an infection
of the small vessels.

The second or inflammatory variety
is much more fatal than the
preceding variety. The symptoms
in the commencement of this variety
of bilious fever, are so analogous to
the preceding, that a distinction



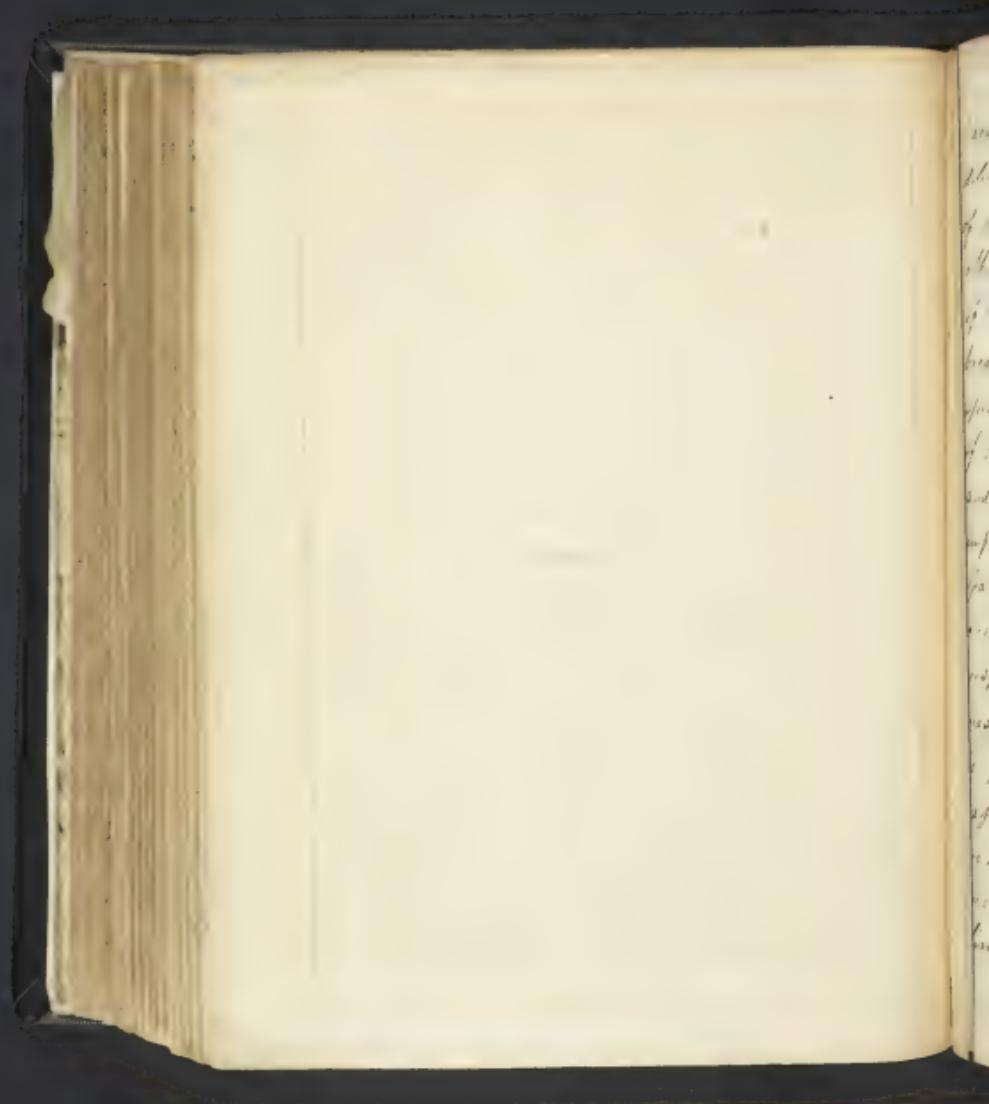
12

would be a more repetition of what
I have already said; yet it is important
to observe the local affections which
are connected with this variety of
bilious fever. The stage of febrifugia
lasts for a day or two, during which
time there are frequent alternations
of hot and cold fits. A regular chil-
dren's attack will run in duration,
which would last for an hour
or two when reaction would ensue.
The stage of excitement, being
established, continues for several
hours, when a slight remission
is discernable; though sometimes
there is no remission; the disease
being formed and its course for
several days. As soon as the excitement
is raised inflammation comes on;



though the most usual time for
epizootic disease to make its appearance
is, when the second skin is lost,
several hours, or even a day or
two. The parts that suffer most
in this disease are, the brain and
the membranes of the lungs, and their
appendages, the stomach, the liver
and spleen. The brain is more
subject to inflammation than any
other parts of the system.

The symptoms are, great irritability;
an anxious intoxication countenance;
quick, weak, vibrating pulse;
throbbing of the temporal arteries;
tinnitus aurium, and redness of
the eyes. There is generally constipation
of the bowels, nausea, and vomiting;
visual illusions and delusions;



arched tongue; faltering voices; dilatation of the nostrils, violent uterings of dark blood from the nose or other parts, an instantaneously discharging of black turbulent matter; steriores breathing, and, finally, convulsions speedily put an end to the existence of the poor sufferer. When the lungs and pleura are affected with inflammation, the symptoms are, pain in the chest a sense of constriction across the chest, laborious inspiration, expansion of the abdomen, a troublesome cough, which is frequently attended with an expectoration of phlegm streaked with blood; eyes wild, countenance indicating anxiety and alarm; a livid glow on the cheeks and lips.



175.

and a dark foul tongue. In abdominal inflammation, the symptoms are sufficiently distinct and defined to point out the seat of inflammation; because the diseased Stomach and intestines, and other affections of the organs, have signs so near alike, that the practitioner will frequently find it difficult to draw a line of distinction, which however is not very important in a practical view. For it is enough for the physician to know that inflammation does exist; it makes no difference where; we are to employ similar remedies for its removal.

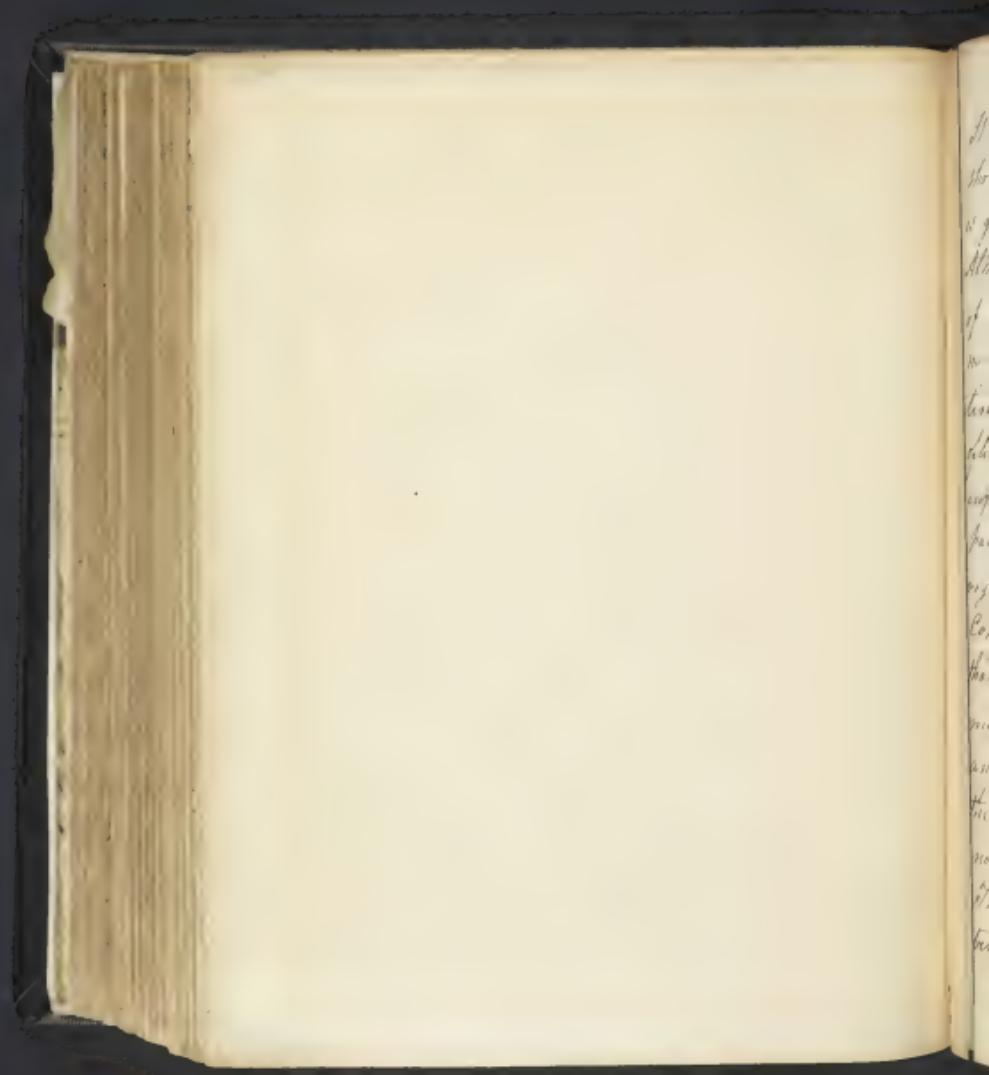
When inflammation of the stomach and bowels takes place, it is generally



denoted by tenderness of the abdomen upon pressure, slimy stools, sometimes mixed with blood; quick hurried respiration, anxious countenance, prostration of strength, small quick pulse, and the patient lies on his back with his knees drawn up. In addition to the above symptoms are, nausea; and sometimes vomiting, with a burning sensation in the stomach, and an intense desire for cold drinks.

Generally, at this time, the stomach is so irritable that the blandest liquid taken in cannot be retained.

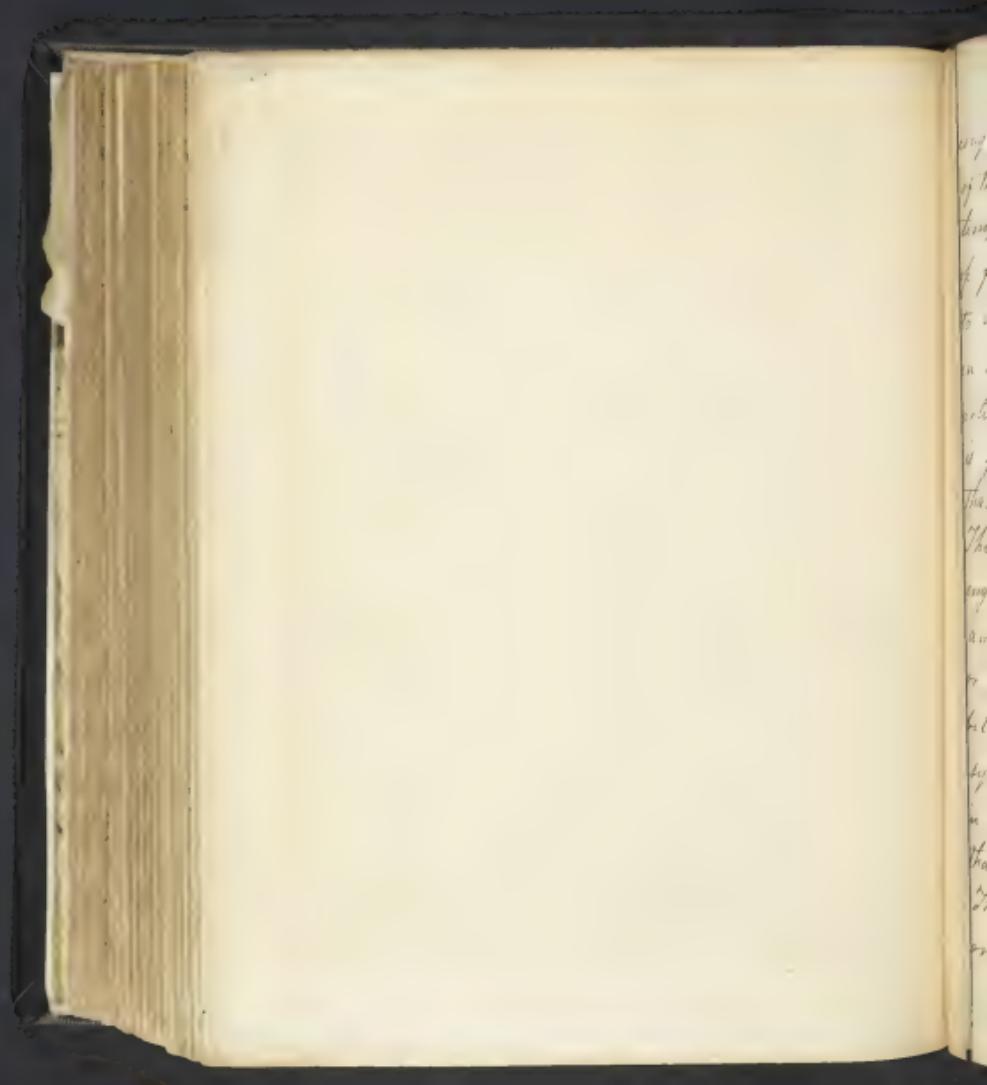
When inflammation of the liver takes place, it is recognized by nausea, pain and soreness in the right hypochondriac region; and when the patient lies on his left side the pain is increased.



It is likewise attended with pain in the shoulder, clay coloured stools, and the skin is generally tinged with bile.

Although I have described the inflammation of different organs separately, they by no means present themselves at all times in that distinct form; for very often, when one part is affected, the inflammation is extended to different parts in its vicinity, and finally distant organs become implicated.

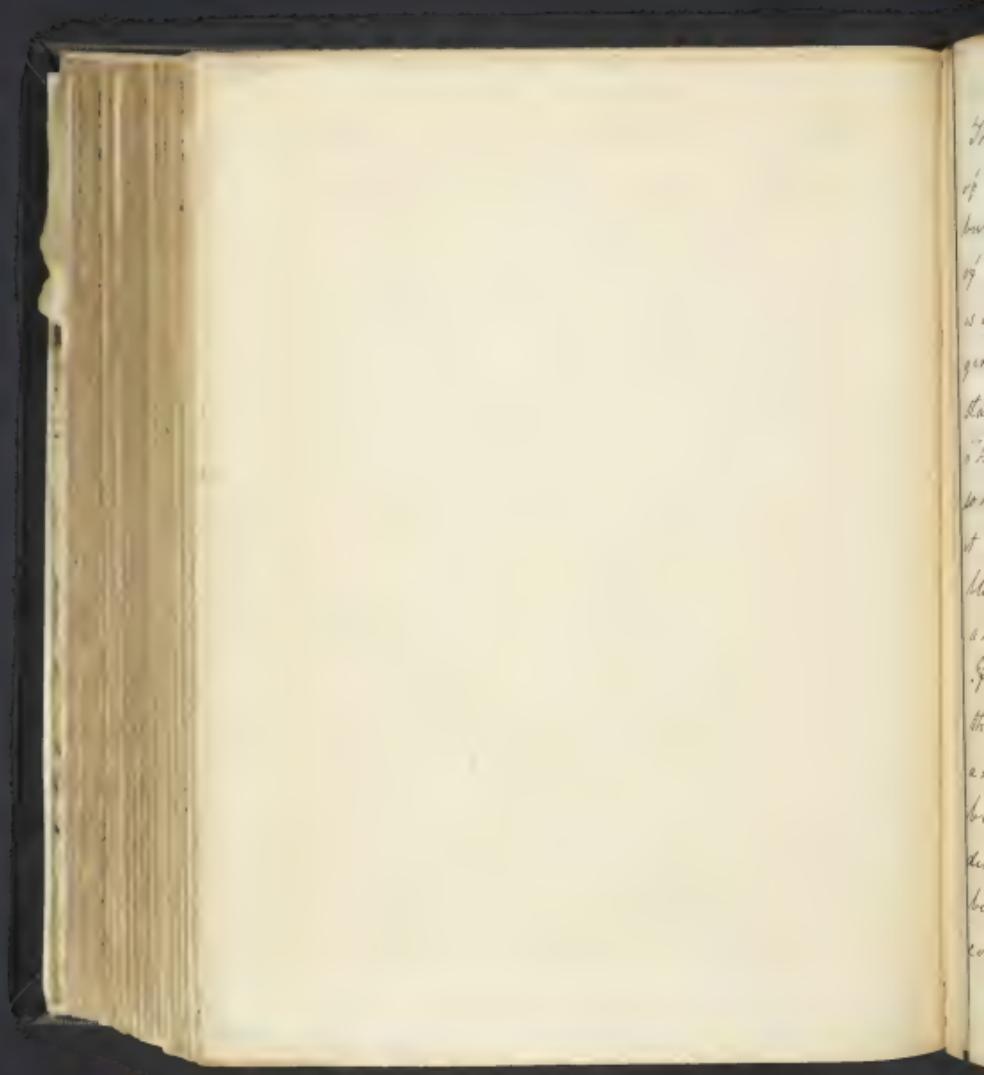
Congestive form. It will be recollect'd that, in the two forms of fever I have mentioned, the action of the heart and arteries was increased, but in the congestive form, of which I shall now say a few words, it was diminished. The most decided marks of distinction, between the diseases of excitement, and



engistion, are, the increased temperature of the former, and the diminished temperature of the latter. In this form of fever, the venous system appears to be more seriously implicated, but in the two preceding varieties, the arteries suffer most. In this, there is greater engorgement of the viscera, than in the two preceding forms. The organs that suffer most from engorgement are, the brain, liver, spleen, and lungs. There is always a greater or less disturbance in the balance between the arterial and venous systems; there is also greater engorgement in the veins, and less in the arteries, than in the natural state.

The loss of balance is very perceptible on the skin; there is less blood circulating

in the extreme reefs than common, while
the internal organs are greatly engorged.
The most dangerous form of congestive
fever makes its attack with violence.
There is greater prostration of strength,
in which the mind participates
with the body; soreness of the muscles,
pain in the head, and extremities,
alternate chills and heat, giddiness or
a sense of weight in the head,
fallow aspect, laborious respiration;
the eyes are suffused, and sometimes
red as if from a fit of intoxication,
or want of sleep; at other times glazing
and vacant without redness. The
pulse, in the commencement, is not
so much altered as might be expected,
but, towards the close, it becomes
more rapid.



The tongue also, in the commencement of the first stage, is not much altered; but, in the last, it becomes encrusted of a dark brown colour; the stomach is often irritable, and the bowels are generally torpid, and contain, at this stage of the disease, dark fecal matter. The sensibility of the skin is, sometimes, so much impaired that it is with difficulty you can get blisters to act; and respiration is anxious, accompanied with sighs. If the disease is to terminate fatally, the above symptoms will be aggravated, and the patient will have oozings of blood from the mouth and nose; delirium will be increased; the pulse become quicker and weaker, skin cold and more flaccid, and the stools

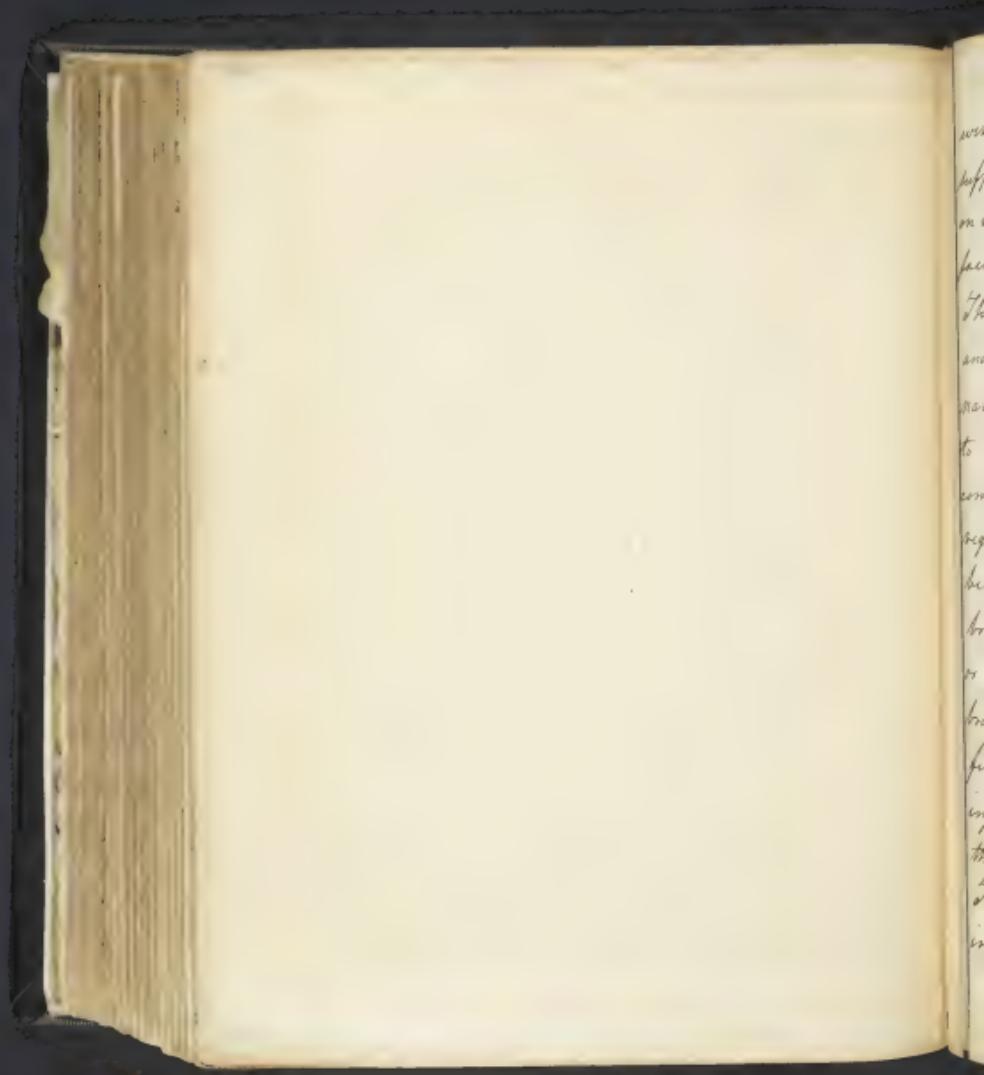


pass insensibly. The above description of the disease is of the most inveterate kind. There are milder forms of the disease, which are more tractable in their nature; differing only in degree of violence, requiring the same method of treatment; therefore I shall not give them a separate consideration. The two first forms of fever I have mentioned, so strikingly resemble each other, that I shall treat of them both at the same time. Between the mildest forms of inflammatory fever, and the worst forms of simple fever, the division is trifling, and therefore nothing more is required, in a practical point of view, than to vary our remedies according to the mildness or severity.

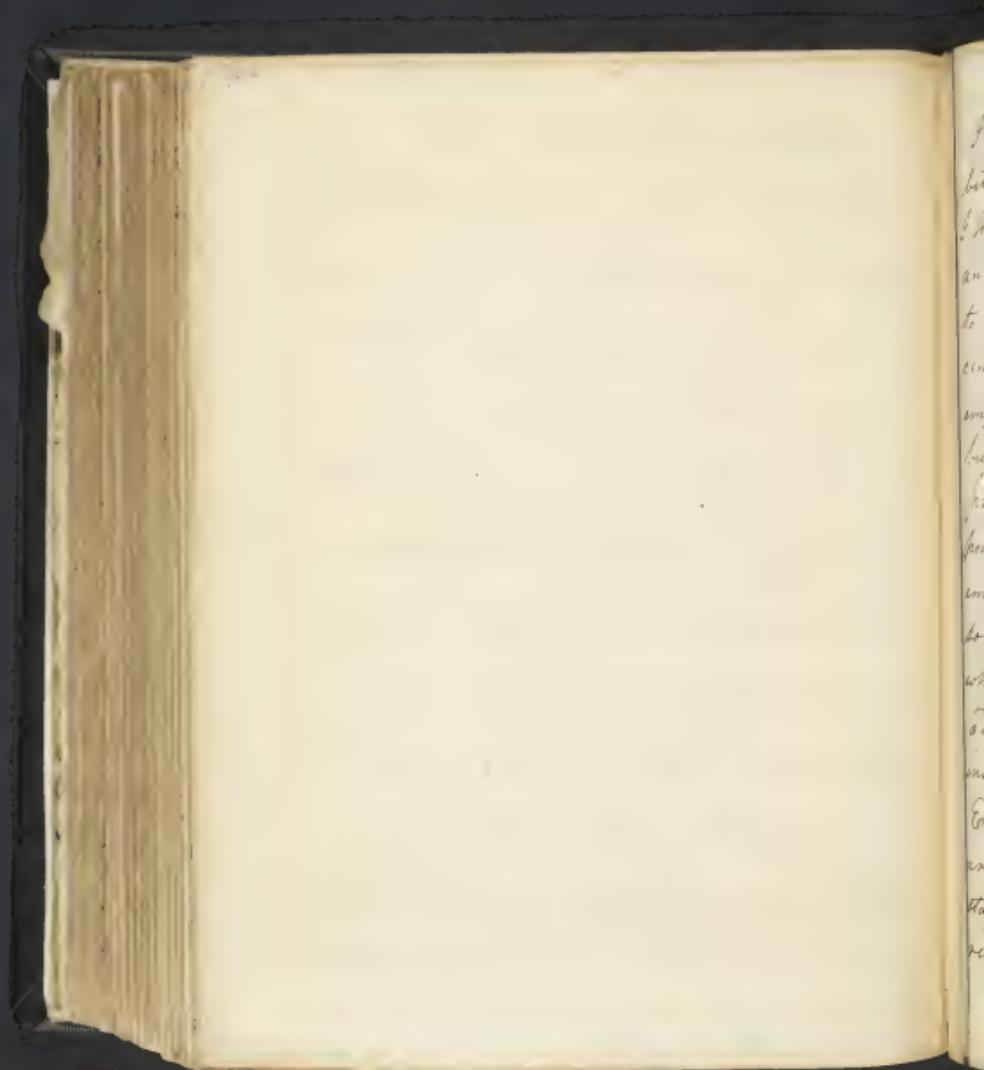


of the disease.

Treatment. The first I shall mention, is venesection. Nothing is more evident than that bloodletting is one of the most powerful and efficient means in reducing action. A judicious employment of it, in the commencement of the disease, when the pulse would indicate it, hardly ever failed to prevent inflammation and cut short the progress of the disease. In the employment of this remedy we must be directed by judgment, tempered by discretion. When there is high arterial action, attended with a strong full pulse, throbbing of the temporal arteries, and hot skin, we may always resort to bloodletting.



with safety. When blood is taken, in sufficient quantity to make an impression on the system, it prepares the way, and facilitates the operation, of other remedies. The stomach being the seat of the disease, and most frequently affected, we are naturally led to direct our remedies to that organ. Fevers have been happily compared, by Professor Caldwell, to vegetables, the spot originally attacked being the root, on which the stem and branches depend for sustenance. Destroy or remove the root, the stem and branches necessarily wither. In cases of fever, heal in an early stage the first infus, which is the cause of all that follows, and its effects will disappear. The next, and most important remedies in the cure of bilious fevers are emetics



I have employed them with decidedly
better effects than any other class of remedies
I have used. Emetics, and especially the
antimonial emetics, have been employed,
to a limited extent, in fevers, for some
centuries. They were pretty extensively
employed about the middle of last century;
but physicians from an artificial
preference, have resorted to the less effectual
practice of purging. Of all emetics, taro
emetic is the best. Ipecacuanha may
sometimes be combined with advantage;
which gives promptness to the operation.
To insure success it is necessary, in some
instances, to repeat them again & again.
Early exhibited, emetics will frequently
arrest an attack, and, in more advanced
stages, if judiciously administered and
repeated sufficiently often we shall

fin
tony
pam
steve
mitch
John
few
pam
seis
frob
als
Rus
H
H
fro
77
old
mis
oh
for

find arterial action reduced, the temperature of the body diminished, pain in the head relieved, with a delamination to the surface, which restores quietness and hastens a critical solution of the disease. There are but few cases in which emetics are not proper, cases to which they are not adapted, are said to be a short neck, a full plethoraic habit, and a predisposition to apoplexy; also the advanced stages of pregnancy. Next in utility to emetics are purgatives. They operate by evacuating the bile and foul contents of the alimentary canal. They relieve oppression of the stomach, cleanse the foul tongue, mitigate thirst, settlemp, and heat of surface. The cathartics usually employed and found most effectual are, calomel,

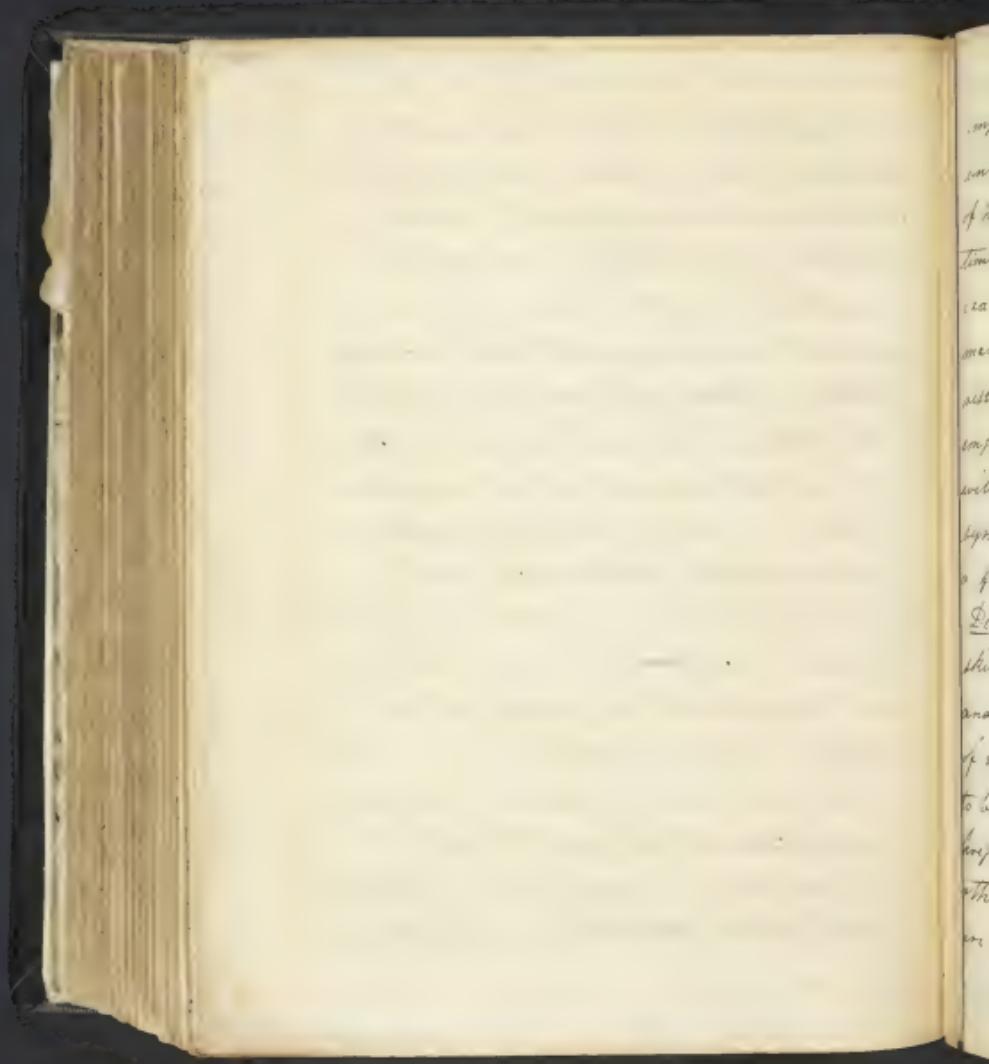
sh
seta
the
tha
ff
ad
the
gen
the
me
in
fol
sel
cal
der
ghu
tun
f
mea

rhubarb, jalap, castor oil, and the neutral salts. Previously to the exhibition of cathartics the lancet should be employed; as it paves the way and renders the operation more effectual. For the time of their administration we should wait for the remission of fever, and if protracted, give them at that time; as otherwise they are apt to lie inactive on the stomach many hours. I usually gave calomel in combination with rhubarb, or jalap; followed by a dose of castor oil, or Epsom salts. In protracted, and unrelenting cases, we should purge with calomel until dark tar like fluid stools appear. This glutinous substance is often so adhesive to the surface of the intestines, giving to it a sort of covering, over which the feces and other matters pass, and are discharged, leading us



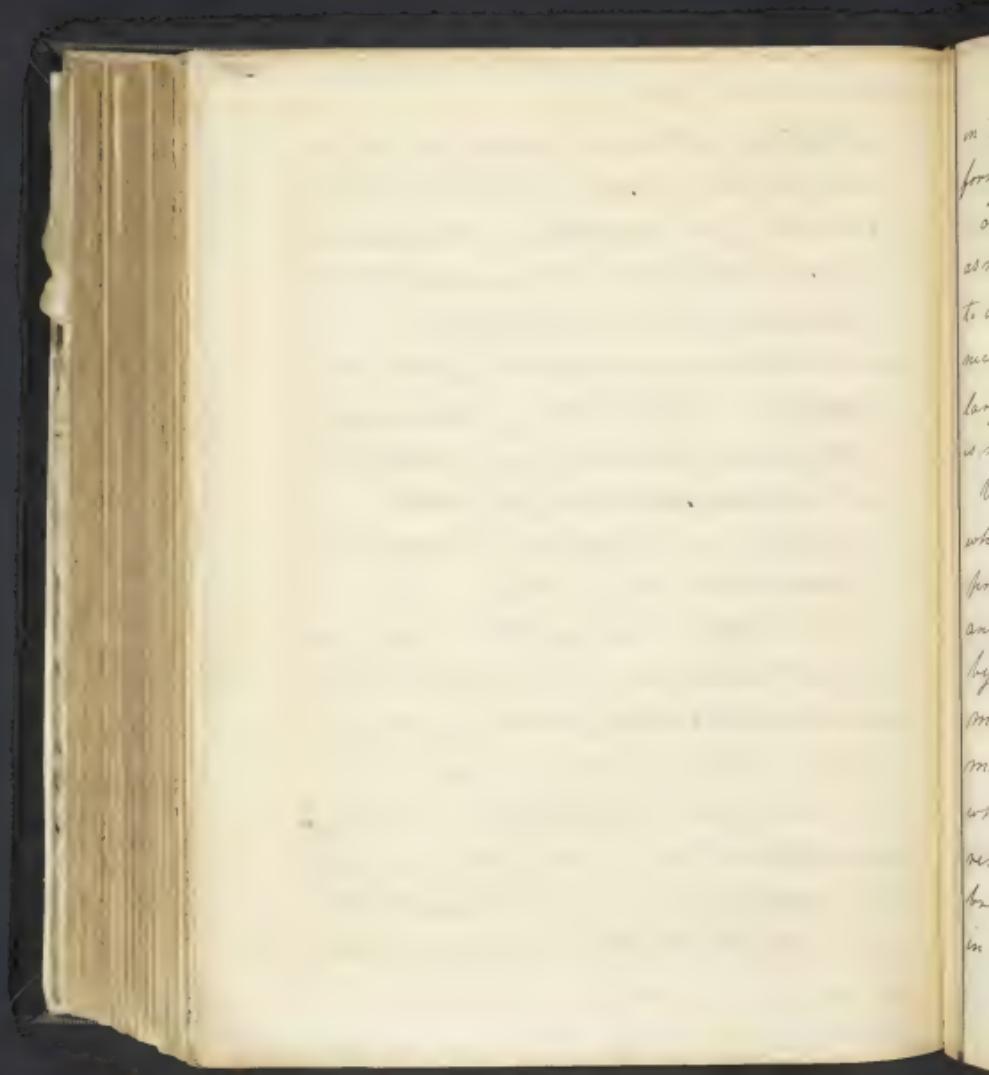
to suppose that the bowels are completely evacuated, when it remains undisturbed. In all cases its removal is of the almost importance; like the removal of the encrustation of the tongue may be received as evidence of the restoration of a healthy action of the mucous surface.

To obtain this end, I have found small and repeated doses of calomel answer better than large doses given at once. Large cathartic injections, frequently administered, are very useful in promoting the action of purgatives, and removing irritating feces. Injections of cold, by lessening heat and irritation, are often attended with very beneficial results, and pleasant feelings to the patient. For moderating excess of heat, and restoring healthy action, cold bathing is of the utmost



importance. It should not be employed until the heat is above the natural standard of health. The safest and most advantageous time for using cold water, is when the exacerbation is at its height, which is marked by increased flushings, thirst and asthopy. Cold bathing judiciously employed, and carried to a sufficient extent, will seldom fail to moderate the symptoms, and materially contribute to a favourable termination.

Diaphoretics when well turned, and skilfully employed, are a most important and effectual class of remedies in the cure of bilious fever; but they ought never to be employed until the system is properly prepared for them by venesection, and other depletory measures. The antimonials are preferable to all others; they are mild



in their operation, and better suited to our forms of bilious fever than any others.

Tarter emetics, in minute doses, so small as not to create much nausea; is found to answer every purpose. It is not necessary we should give them in such large doses as to produce nausea; for it is not necessary to the cure of the disease.

We know that SQuill and Tobacco, which occasion great nausea, are not productive of any diaphorisis. The antimonial preparations appear to act by a specific impression which they make on the system; subverting the morbid action going on in it, upon which the disease depends. The above remedies are generally sufficient to bring on a solution of the disease; but in some cases, where confirmed topical

did
cal
on
for

car

mo

of
the

sta

me

ton

stay

do

for

we

me

th

of

in

disease takes place, it is necessary to give calomel, so as to make a slight emperfusion on the system, towards the close of fever. As the depletory measures are carried into effect, the chills will become more mild, the fever abate, and very often disappear. But sometimes, when the fever is almost subdued, and the stage of collapse is approaching, it is necessary to give cinchonine and other tonics to prevent the chills. In the third stage of the disease, it is not necessary to do much, but merely to support the patient by a generous allowance of wine and a small quantity of the mildest food. I have said nothing of the treatment in the first stage, or stage of opposition, because I was seldom called in until it had passed. Regulating bowels,

af
ge
ge
ge
le
het

ste

fe

su

pa

sl

le

si

th

sl

su

en

we

6

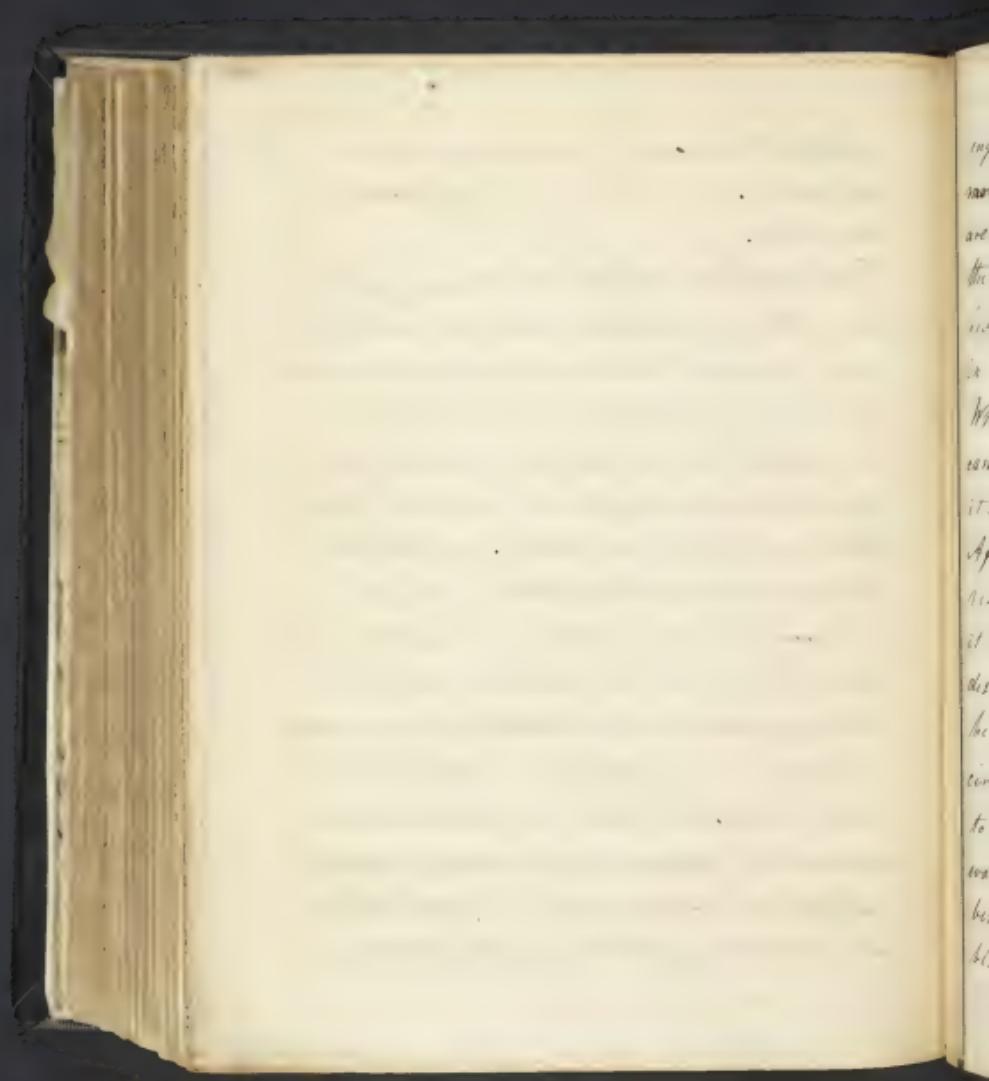
ab

apstia the disease to emerge, and are generally found to be very efficacious remedies.

Congestive form. Almost every fever has a stage of oppression however short it may be; but those only deserve to be called congestive, in which it is so great as to suppress the excitement, or render it very partial and irregular. It is in this first stage of highly congestive fever, that blood-letting is admissible, with a view of relieving local congestion, and restoring the natural balance of the circulation.

Nothing is so well calculated to relieve congestion, and bring about healthy action, as the judicious employment of the lancet. In extracting blood, we should be governed by the effects produced.

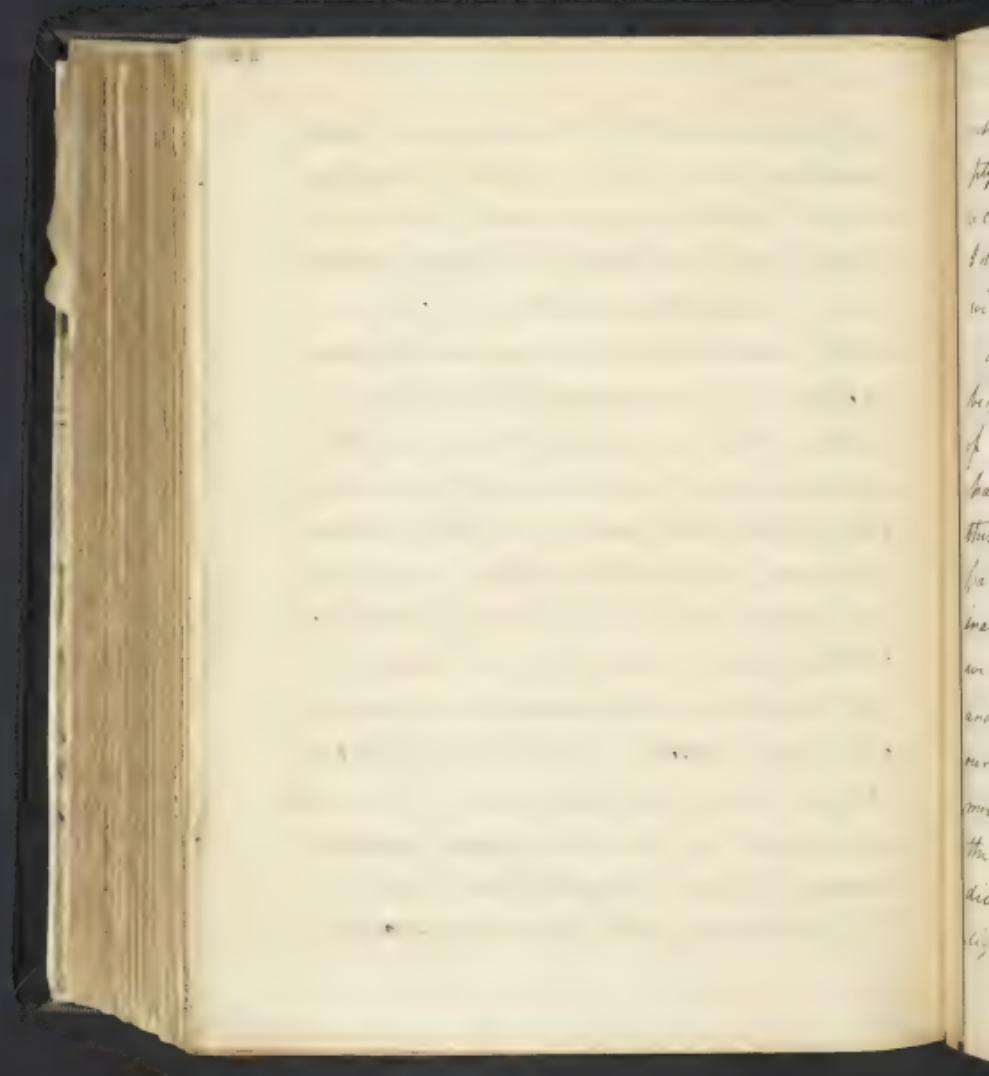
Sometimes a few ounces will be sufficient, at other times more will be required to relieve



engorgement, and bring about a renewal of its motion. The actions of the heart and arteries, are so overpowered in the first instance that the blood will scarcely flow; but merely trickle from the orifice. After a few ounces are obtained in this way, it often flows more freely.

Whenever the symptoms are urgent, and blood cannot very readily be extracted from the arm; it will be proper to open the temporal artery. After having drawn blood, should the pulse rise, we may repeat bloodletting; but should it become weaker, we should immediately desist from it. The warm bath will sometimes be a very beneficial auxiliary in equalizing the circulation, and producing a determination to the surface. Friction on the surface, and warm bricks applied to the feet are very beneficial in restoring the circulation. The bloodletting, warm bath, &c, should be followed

by purgations, and the best is calomel, either alone, or combined with jalap or senna bark. Very large doses will often be required, as the bowels are generally in a torpid state. The saline purgatives, aided by stimulating enemas, will be very useful in promoting a discharge. In this form of fever, there is an accumulation of offensive matter in the bowels. That they are in this condition is proved by the encrusted tongue, foul state of the fauces, and dark fetid alvine discharges. Until these actions are changed we should continue the administration of cathartics again and again. It would seem that debility would be induced from such a course of practice; but that is not the fact. On the contrary, the patient will be invigorated in proportion as this dark offensive matter is removed. Calomel independently of its removing the foul contents of the alimentary canal, is



useful, when given so as to produce a gentle purgation, which hardly ever fails to effect a cure in this form of the disease. The remedies I have mentioned, when properly administered, will be sufficient to cure the disease.

To prevent a relapse, our patients diet should be particularly attended to, in all the forms of fever I have mentioned, too little attention has formerly been paid, by physicians, in this part of the country, to the diet of their patients during convalescence. From inclination to this important requisition, we may not unfrequently have suffered and congestions of some of the viscera, by our patients returning to their former mode of living. Moderate exercise, in the open air, is very beneficial. The diet should be nutritive, easy of digestion, and not too stimulating.

l

3 /

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

The farinaceous substances are supposed to be the most easy of digestion. They form a part of the nourishment of almost all nations; acquired habits there, as well as natural instincts, of the digestive system, lead to their use.

Oily and fatty substances are not proper, because they cloy the stomach, and are difficult to digest. Sops of all kinds are indigestible, and should not be used. The flesh of common fowls, partridge, and turkey may be taken. When meat is proper, from the abstinence of fowls, beef and mutton are the best articles of diet.

